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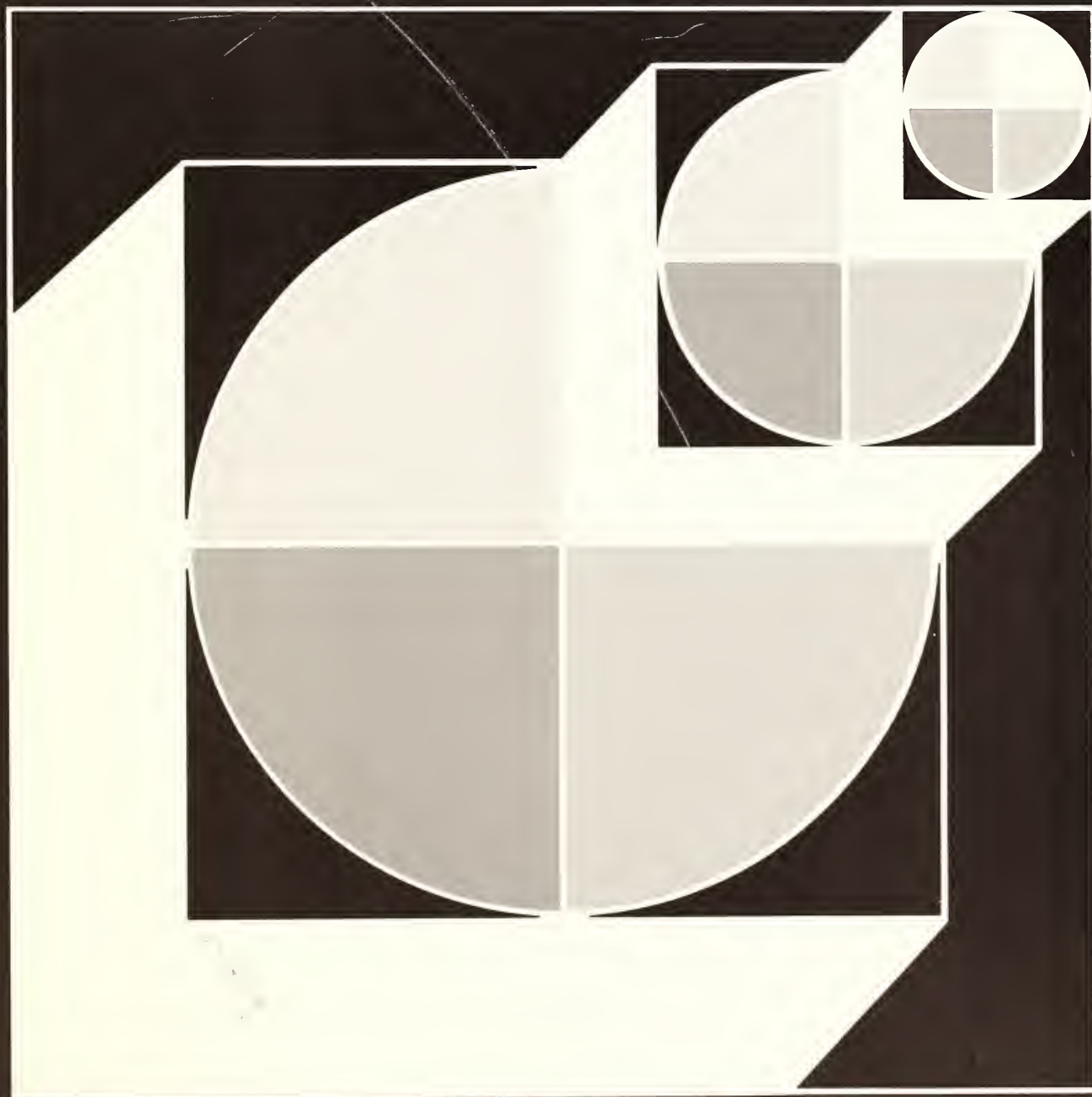
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Family Economics Review

1988
No. 1

United States
Department of
Agriculture

Agricultural
Research
Service





Family Economics Review

1988 No. 1

Contents:

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Family Economics Review is published each quarter by the Family Economics Research Group, Agricultural Research Service, United States Department of Agriculture, Washington, D.C.

The Secretary of Agriculture has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Department.

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Issued January 1988

The following article is the first in a series on consumer expenditures for various components of the household budget. Articles on expenditures for transportation, utilities, and other budget items will be featured in upcoming issues of Family Economics Review.

Housing Expenditures

By Nancy E. Schwenk
Consumer economist

Since the sixties, housing has represented the largest share of the American consumer's budget. The proportion of total expenditures spent on housing has increased steadily from 26.5% in 1950 to 33% in 1983. This article examines changes in housing expenditures over time and housing expenditures among subgroups of the U.S. population, and provides a physical description of American housing.

SOURCE OF DATA

Data are from the 1982-83 Consumer Expenditure Survey (CES), a continuing survey conducted by the Bureau of Labor Statistics, U.S. Department of Labor. The Survey has a rotating sample of approximately 5,000 consumer units.¹ Findings reported here are based on responses from approximately 16,000 households who reported positive income and who had participated in the interview portion of the Survey during 1983. Households

¹A consumer unit, or household, is either (1) all members of a particular household who are related by blood, marriage, adoption, or other legal arrangement; (2) a person living alone or sharing a household with others, or living as a roomer in a private home, lodging house, hotel or motel, but who is financially independent; or (3) two or more persons living together who pool their income to make joint expenditure decisions.

were asked about expenditures for housing for the previous 3 months. Comparisons were made with data from the Consumer Expenditure Survey of 1980-81 (approximately 18,000 households) and 1972-73 (approximately 10,000 households), and with the Annual Housing Surveys of 1983 and 1973, undertaken by the Bureau of the Census, U.S. Department of Commerce.²

COMPARISONS OVER TIME

A comparison of housing expenditures from the 1983 CES with those reported in the 1981 and 1973 surveys shows that the percentage of the household budget allocated to housing increased slightly between surveys to one-third of the total budget by 1983 (table 1, p. 4). Expenditures for housing increased more than total expenditures between 1973 and 1983--141% and 127%, respectively. Part of the increase in housing expenditures can be attributed to higher mortgage rates, which rose by over 60% between 1973 and 1983 (table 2, p. 4). Also, the price of single-family homes more than doubled during this 10-year period (table 3, p. 5).

Dollars spent for total housing, utilities, and household operations doubled or more than doubled between 1973 and 1983. The housing component with the largest percentage increase was fuel and other utilities, up 155% between 1973 and 1983. However, throughout the 10-year period, utilities maintained about a one-quarter share of the housing budget. Expenditures for house-furnishings and equipment increased much less dramatically than the other housing components. Spending for major appliances increased the least and actually declined slightly between 1981 and 1983. The increase in spending for total expenditures, housing, and utilities closely match the increases in the Consumer Price Index (CPI) during this 10-year period, as shown in the table on p. 2 (2).

²In 1984 the Annual Housing Survey was renamed "American Housing Survey" and is currently being conducted every other year.

Percent change in CPI and CES from 1973

	1981		1983	
	CPI	CES	CPI	CES
All items	105	99	124	127
Housing	117	105	139	141
Fuel and other utilities	152	117	192	155

SUBGROUPS OF THE POPULATION

Income

Income was divided into five brackets for purposes of analysis--under \$10,000, \$10,000 to \$19,999, \$20,000 to \$29,999, \$30,000 to \$39,999, and \$40,000 and over. Dollar amounts spent on housing increased with income, although the percentage of total expenditures allocated to housing decreased as income increased. Households with annual income under \$10,000 in 1983 spent 35% (an average of \$3,165) of their total expenditures on housing, whereas households with greater income spent about 32%. Similarly, expenditures for utilities increased as income increased, but the proportion of total housing expenditures represented by utilities decreased as income increased. As might be expected, households in the highest income bracket (\$40,000 and over) spent significantly more on lodging away from home (including rental of hotel and motel rooms, expenses for vacation homes, and housing for someone at school) than households in the lowest income bracket--\$340 and \$129, respectively.

Households were also contrasted by income quintiles. Mean income for each quintile was \$7,825, \$10,675, \$18,481, \$28,885, and \$53,172. Households in the two lowest income quintiles, whose housing expenditures averaged \$3,477 and \$4,113, spent a greater portion of their total expenditures on housing (34%) than households in the highest three quintiles (32%). Also, utility bills accounted for a larger share of total housing expenditures for households in the two lowest income quintiles--31%, compared with a range of 21% to 28% for households in the three highest income brackets.

Housing Tenure

In 1983, 60% of CES householders were homeowners and 40% were renters. By comparison, the percentage of homeowners was 59% in 1973 and 44% in 1940. Homeowners spent more than renters for housing and all applicable components of housing in 1983 (table 4, p. 5). Homeowners spent about twice as much as renters for utilities, household operations, domestic services, and small appliances; they spent well over twice as much for lodging away from home, furniture and equipment, household textiles, floor coverings, major appliances, and miscellaneous household equipment.

Household Size

Four-person households in the 1983 CES had higher incomes and spent more for housing than other size households. Four-person households also spent the most for mortgage interest, property taxes, and household maintenance. One-person households spent the greatest proportion of their total expenditures for housing (35%, compared with multiperson households who spent between 29% and 33%). Expenditures for utilities increased as household size increased. Households of six or more persons spent a larger share of their total housing expenditures for utilities than did smaller households. In 1973, five-person households had the highest incomes and the largest housing expenditures.

Household Composition

Households consisting of a husband and wife with children earned more money, spent more money, and had higher housing expenditures than other household types in 1983. Husband and wife households with children also had the highest expenditures for mortgage interest, property taxes, utilities, household operations, domestic services, major and small appliances, and miscellaneous household equipment.

Single persons and single parents with children were the household types most likely to be renters and consequently had the lowest housing expenditures. However, single parents with children spent the

largest portion of their total expenditures for housing compared with other household types. Single parents with children spent the least for household maintenance and lodging away from home, but they spent the highest amount for rent. Of single parents living with children, two-thirds of mothers were renters compared with only one-third of fathers. Single persons spent the least for utilities, mortgage interest, household operations, domestic services, furniture and equipment, major appliances, and miscellaneous household equipment.

Households consisting of a husband and wife with no children had the highest expenditures for household maintenance, lodging away from home, and furniture and equipment. They were the household type most likely to have their mortgage paid off.

Region

In 1983, CES households who lived in the West spent more for housing than those who lived in the other three regions of the country. Housing also represented a greater share of total expenditures in the West. Westerners had the highest expenditures for mortgage interest, rent, lodging away from home, household operations, domestic services, and miscellaneous household equipment; and the lowest expenditures for utilities. Midwesterners had the highest expenditures for property taxes and utilities, and the lowest expenditures for rent and household maintenance. Southerners spent the most on furniture and equipment and major appliances, and the least on property taxes. Northeasterners spent the most on household maintenance and the least on mortgage interest. In 1973 households living in the Northeast had the greatest expenditures for total housing and for utilities.

In both 1973 and 1983, new homes were priced highest in the Northeast, although in 1981 the West had the highest priced new homes (table 3). In 1973, 1981, and 1983, new homes were lowest in price in the South. In 1973 existing homes were priced highest in the Northeast, but in 1981 and 1983 existing home prices were highest in the West. The lowest priced existing homes for all 3 years were in the Midwest.

Persons living in rural areas were more likely to be homeowners than persons living in urban areas. Findings from the Annual Housing Survey (AHS), in both 1973 and 1983, indicate that 73% of all occupied housing units in rural areas were owner-occupied, compared with 61% in urban areas.

Race

According to the 1973 AHS, 67% of white³ householders were homeowners, compared with 43% of black householders. In the 1983 AHS, the percentage of white householders who were homeowners remained at 67% but the percentage of black homeowners had increased slightly to 45%.

In 1983 whites had annual incomes that were 57% higher, total expenditures that were 55% higher, and housing expenditures that were 41% higher than those of blacks. However, blacks spent a greater portion of their total expenditures on housing than did whites. Dollar amounts spent on utilities were nearly equal for blacks and whites, but utilities represented a larger share of housing expenses of black households than of white households--34% and 24%, respectively. White households spent more than twice as much as black households on household maintenance, lodging away from home, furniture and equipment, household textiles, floor coverings, small appliances, and miscellaneous household equipment.

PREDICTING HOUSING EXPENDITURES

The amount of money households are likely to spend on housing may be associated with various demographic factors pertaining to those households. A multiple regression was conducted to determine what factors were related to housing expenditures.⁴ All factors were statistically significant at

³Group includes American Indian, Aleut, Eskimo, Asian or Pacific Islander, and other.

⁴The multiple R^2 for the equation was .41. Intercorrelations of all the independent variables in this regression analysis were less than .35.

Table 1. Mean annual housing expenditures of Consumer Expenditure Survey households

Item	1973	1981	1983
Total expenditures.....	\$8,080	\$16,088	\$18,317
Housing expenditures.....	2,468	5,071	5,960
Shelter ¹	1,309	2,834	3,381
Fuel and other utilities ²	606	1,313	1,544
Household operations ³	140	246	280
Housefurnishings and equipment ⁴ ..	413	678	755
Major appliances	95	126	124
Housing (% of total expenditures) ⁵	31	32	33
Fuel and other utilities ⁶ (% of housing expenditures)	25	26	26

¹ Includes of owned dwellings, mortgage interest, property taxes, maintenance, repairs, insurance, rented dwellings, and lodging away from home.

² Includes natural gas, electricity, fuel oil and other fuel, telephone, water, and other public services.

³ Includes domestic services and other household expenses.

⁴ Includes household textiles, floor coverings, major appliances, small appliances, miscellaneous housewares, and miscellaneous household equipment.

⁵ Mean housing expenditure as a percentage of mean total expenditure.

⁶ Mean utility expenditure as a percentage of mean housing expenditure.

Table 2. Home mortgage rates

Type of mortgage	Annual average interest rate			Percent increase, 1973 to 1983
	1973	1981	1983	
	(percent)			
FHA-insured mortgage.....	8.19	16.31	13.11	60.1
Conventional mortgage, new home.....	8.30	16.52	13.43	61.8
Conventional mortgage, existing home.....	8.33	16.55	13.45	61.5

Source: U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States 1978, p. 549; and Statistical Abstract of the United States 1986, p. 506.

Table 3. Median sales price of new and existing single-family houses, by region

Region	1973	1981	1983
New houses:			
United States	\$32,500	\$68,900	\$75,300
Northeast	37,100	76,000	82,200
Midwest	32,900	65,900	79,500
South	30,900	64,400	70,900
West	32,400	77,800	80,100
Existing houses:			
United States	28,900	66,400	70,300
Northeast	32,800	63,700	72,200
Midwest	25,300	54,300	56,600
South	29,000	64,400	69,200
West	31,000	96,200	94,900

Source: U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States 1985, p. 729.

Table 4. Mean annual housing expenditures of Consumer Expenditure Survey households, by housing tenure, 1983

Item	Homeowners	Renters
Total expenditures	\$21,498	\$12,883
Housing expenditures.....	6,963	4,293
Shelter.....	3,653	2,747
Mortgage interest	1,921	--
Property tax	659	--
Household maintenance.....	657	--
Rent	--	2,554
Other lodging	385	174
Fuel and other utilities	1,938	934
Household operations	348	181
Domestic services.....	278	142
Other household expenses	70	40
Furniture and equipment	1,023	431
Household textiles	115	39
Floor coverings	68	11
Major appliances.....	167	71
Small appliances	80	39
Miscellaneous household equipment.	244	99

the 5% level. Total household expenditures, before tax income, presence of children, homeownership, and number of family members were positively related to total housing expenditures. Age of reference person,⁵ number of earners in the household, and race were negatively related to total housing expenditures. Overall, total household expenditures and before tax income were the best predictors of total housing expenditures.

HOUSING DESCRIPTION

In 1983 most of the CES households (61%) lived in single-family, detached homes. Thirty-five percent lived in multifamily or attached homes, which includes town houses, row houses, duplexes, garden and high-rise apartments, and flats.⁶ Among these multifamily homes were over 1 million owner-occupied condominiums. Of the CES households, 4% lived in mobile homes or trailers. The age of the housing units was rather evenly distributed among dwellings built in 1949 or earlier (33%), between 1950 and 1969 (36%), and in 1970 or later (31%). The majority of households (56%) lived in homes having between five and seven rooms; 32% lived in smaller homes of one to four rooms; and 12% lived in larger homes of eight rooms or more. Of the CES households, 2% lived in public housing and/or were being assisted by the government in paying part of their housing costs.

The 1983 AHS results indicate a net increase in the number of housing units of approximately 23% between 1973 and 1983. At the same time, the U.S. population increased 11%. This indicates a trend toward fewer persons per housing unit. Also, the median number of rooms per housing unit has dropped slightly from 5.2 in 1973 to 5.1 in 1983.

⁵ The reference person is the first person mentioned by the respondent when asked to "Start with the name of the person or one of the persons who owns or rents the home."

⁶ An apartment on one floor usually with separate entry and sometimes lacking amenities (for example, a cold-water flat).

Changes in the adequacy of American housing units over time are evident. One means of assessing housing adequacy is by determining the rate of overcrowding, which was a health problem in the first half of this century. A standard was set in 1950 that defined overcrowding as more than 1.0 persons per room. At that time, over 16% of all homes were considered to be overcrowded. At present, however, fewer than 4% of all U.S. households exceed the 1.0 person per room standard. Another measure of housing adequacy is the existence of complete plumbing facilities (hot and cold running water, flush toilet, and bathtub or shower). In 1940 nearly 45% of all dwellings lacked one or more of these plumbing facilities. By 1960 the percentage of units without complete plumbing facilities had decreased to 13%, and by 1973 and 1983, to 6% and 2%.

Other changes in the characteristics of housing units can be noted. The number of units with air conditioning increased from 12% in 1960 to 47% in 1973, and to 59% in 1983. Also, the number of housing units with a telephone increased from 78% in 1960 to 94% in 1973, but then dropped to 90% in 1983.

CONCLUSIONS

Large increases in mortgage interest rates and in the cost of utilities account for much of the increase in expenditures for housing between 1973 and 1983. Some of the increased spending for housing can be attributed to improvements in housing adequacy. Greater spending for housing can also reflect the consumer's desire for increasing quantities of housing goods and services.

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Changes in the Use of Cash and Other Methods of Payment

Families use cash, credit, checks, money orders, and debit cards to pay bills and make purchases. To learn how consumers acquire cash and use both cash and other means of payment, the Board of Governors of the Federal Reserve System in 1984 commissioned the Survey of Currency and Transaction Account Usage.

Since that time several economic, regulatory, and technical changes have occurred that could affect the way families use cash and bank accounts. (1) Automated teller machines (ATM's) became widely available through improved electronic technology, (2) interest rates on consumer deposits were virtually deregulated, (3) Federal minimum balance requirements on accounts were eliminated, and (4) yields on short-term

investments fell, narrowing the gap between these rates and those paid on interest-bearing checking accounts.

The Board commissioned a second survey in 1986 to ascertain the effects of these changes on the payment practices of families. Both the 1986 and 1984 surveys collected information on deposit balances, expenditures out of accounts, uses of credit cards, and patterns of cash acquisition and use (see table on p. 8). General results showed that consumers' choices among methods of payment were mostly unchanged between the 2 years:

Methods of payment by families	1984	1986
	(percent)	
Cash only	6	7
Cash and money orders..	7	8
Cash and checks	20	19
Cash, checks, and credit cards.....	67	66

However, this general stability included some significant changes within the various means of payment.

Checking accounts. Families used their main checking account for a smaller percentage of their total spending in 1986 than they did in 1984. Although the average account balance fell by \$458, about one-half of the families surveyed reported maintaining a higher balance than they otherwise would have to avoid or reduce bank fees and service charges. The percentage of families reporting the payment of fees increased by 6% in 1986. However, the percentage receiving interest on checking accounts was unchanged at 39%. The surveys also suggested that the use by families of checking accounts for savings purposes increased as their use for transactions decreased.

Use of transaction accounts by families, 1984 and 1986

Method of payment	Families owning accounts (percent)		Families using accounts (percent of owners)	
	1984	1986	1984	1986
Money market and savings accounts....	69	59	18	30
Main checking account.....	87	85	94	97
Other checking account.....	20	22	60	75
Credit cards	71	71	76	82
ATM's	44	46	61	69
Money orders.....	--	--	15	14

Source: Avery, Robert B., et al., 1987, Changes in the use of transaction accounts and cash from 1984 to 1986, Federal Reserve Bulletin 73(3):179-196, Board of Governors of the Federal Reserve System.

Credit cards. The use of credit cards as a method of payment rose substantially from 1984 to 1986. Total monthly credit card charges were more than 27% higher in 1986. Much of the rise of the credit card debt may reflect an increased use of cards as a means of payment rather than as a source of credit--the average credit card charge per family increased by less than 4%.

Money orders. In the aggregate, money orders are not an important way of making purchases and paying bills for most people. However, nonwhites, Hispanics, and low-income families used money orders to pay for a significant proportion of their expenditures.

Electronic banking. There was no increase in the growth of direct deposits to family accounts in 1986 and only small growth in the proportion of families having automatic payment of a mortgage or other bill. Since 1984 the proportion of families owning ATM cards has not changed significantly, but the proportion using ATM's has increased by 8%.

Cash. Check cashing was the primary means used by individuals to obtain cash; at the time of the 1986 survey, an estimated 550 million checks per month were cashed by individuals. Of the total cash acquired by all individuals for use in transactions, 70% was withdrawn from checking or savings accounts in a bank or other financial institution; 9% was acquired from ATM's; 8% from employers; another 7% from families and friends; and 6% from stores. Data on the rate of cash acquisitions indicated that individuals obtained cash less frequently in 1986 (about every 16 days) than they did in 1984 (about every 12 days). However, in 1986 they acquired somewhat larger amounts each time. These findings may reflect the fact that declining interest rates over the period reduced the interest income foregone by holding instead of investing cash. Evidence also suggests that the usage or turnover rate of cash (total cash spent divided by average cash held) declined between 1984 and 1986.

Source: Avery, Robert B., et al., 1987, Changes in the use of transaction accounts and cash from 1984 to 1986, Federal Reserve Bulletin 73(3):179-196, Board of Governors of the Federal Reserve System.

Women's Food and Nutrient Intakes Away From Home, 1985

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Eating away from home was more common among women at the highest income level than at lower income levels, as reported in the 1985 Continuing Survey of Food Intakes by Individuals (CSFII-1985) (2, 3), conducted by USDA's Human Nutrition Information Service (HNIS). Consequently, food obtained and eaten away from home contributed larger proportions of the food energy and nutrient intakes by women in the highest income group than in lower income groups.

Results presented here are group means for women 19 to 50 years of age, based on 4 nonconsecutive days of dietary information collected over a 1-year period from April 1985 through March 1986. Individuals were asked to provide 6 days of dietary data over a 1-year period. Waves of data collection began at intervals of approximately 2 months. Data were collected using a 1-day recall. The first wave was collected by personal interview; subsequent waves were collected by telephone when possible. Only 47% of the women who provided the first 1-day recall completed all six waves. The results presented here are for the 1,088 women (71%) who completed the first 1-day recall and at least three additional 1-day recalls. For women who provided more than 4 days of dietary data, the 3 additional days used in the analyses were randomly selected. Further details about the purpose, methodology, and results of the CSFII-1985 have been published by HNIS (1, 2, 3).

The income groups used in this article are based on the poverty guidelines provided by the U.S. Department of Health and Human

Services (4). Women living in households with before-tax incomes for the previous year below 131% of the poverty guidelines are referred to as low-income (N=220); those with incomes from 131% through 300% of poverty are referred to as middle-income (N=364); and those with incomes over 300% of poverty are referred to as high-income (N=384). Food and nutrient data reported by income exclude 120 women living in households that did not report income. The low-income group had a much higher proportion of blacks (33%) than did the other income groups (4% of both middle- and high-income).

Prevalence of Eating Away From Home

In the CSFII, participants were asked whether each food or drink item they consumed was from the home food supply (food eaten at home and food brought into the home but later eaten elsewhere) or was obtained and eaten away from home (food never brought into the home, including food eaten at someone else's home).

Of all women surveyed, 19% obtained and ate some food or drink away from home on each of the 4 survey days, as shown in the table below. Only 12% of the women did not eat away from home on any of the 4 days. The prevalence of eating away from home was greater in successively higher income groups. Away-from-home-eating was more common among white than among black women.

	Number of days food away reported				
	0	1	2	3	4
	(percent of individuals)				
All women	12	20	23	26	19
Income group:					
Low	24	27	23	21	5
Middle	14	17	27	24	19
High	5	14	21	32	28
Race:					
White	10	19	23	27	21
Black	22	28	25	13	12

Food Obtained and Eaten Away From Home

The proportion of women's food intake that was obtained and eaten away from home varied by food group and subgroup (table 1). The proportions of food eaten away by women were lowest for fluid milk, cereals and pastas, total milk and milk products, and fruit; and were highest for alcoholic beverages, carbonated soft drinks, and fish and shellfish. The proportions of beverages drunk away from home varied more than did the proportions of other foods.

About 30% (49 gm of 162 gm) of women's intake of meat, poultry, and fish was obtained and eaten away from home. At least one meat, poultry, or fish item was obtained and eaten away from home during the 4 survey days by 72% of the women. Meat mixtures was the meat subgroup obtained and eaten away from home by the largest proportion of women (43%), followed by beef (24%).

Only 14% (28 gm of 200 gm) of women's intake of milk and milk products came from food obtained and eaten away from home,

Table 1. Mean intake and percentage of individuals using selected foods, and percentage of intake obtained and eaten away from home, women age 19-50, 4 nonconsecutive days, 1985

Food group/subgroup	Mean intake per day (grams)	Percentage of individuals using at least once in 4 days	Percentage of intake obtained and eaten away
Meat, poultry, and fish	162	99	30
Meat mixtures	75	79	33
Beef	26	64	27
Frankfurters, sausages, and luncheon meats	13	60	23
Pork	12	50	25
Poultry	20	52	30
Fish and shellfish	11	33	36
Milk and milk products	200	96	14
Fluid milk	147	77	7
Cream and milk desserts.....	22	55	32
Cheese	15	71	27
Eggs	17	58	24
Legumes, nuts, and seeds.....	18	55	22
Vegetables	164	99	27
Dark-green vegetables.....	9	30	22
Deep-yellow vegetables	6	29	17
Fruits and fruit juices	119	81	15
Grain products	196	100	23
Grain mixtures	72	69	26
Cereals and pastas	38	66	11
Fats and oils	16	95	31
Sugars and sweets	17	84	29
Beverages.....	823	99	32
Coffee	298	68	25
Carbonated soft drinks.....	284	84	42
Alcoholic beverages	61	31	44

although more than half of the women (57%) had an away-from-home milk product at least once during the 4 days. More of the women reported eating cheese (31%) and cream and milk desserts (27%) than drinking milk away from home (20%).

Of women's beverage intake (excluding milk and juices), 32% was obtained and drunk away from home (261 gm of 823 gm). The proportion of women drinking beverages away from home was 81%; 61% reported carbonated soft drinks, and 39% reported coffee. Only 18% of the women drank alcoholic beverages away from home, but 44% of the total intake of alcoholic beverages (27 gm of 61 gm) was drunk away from home.

The contribution of food obtained and eaten away from home to total food intakes was lower for low-income women than for high-income women, as shown below:

	Income		
	Low	Middle	High
	(percent of intake)		
Meat, poultry, and fish	20	29	38
Meat mixtures	22	32	41
Beef	19	24	32
Poultry.....	22	29	41
Milk and milk products	12	13	17
Fluid milk	8	6	9
Vegetables	16	26	32
Fruits	11	12	18
Grain products	12	23	30
Grain mixtures	10	27	34
Beverages.....	21	30	37
Coffee	14	22	32
Carbonated soft			
drinks	36	41	47
Alcoholic beverages ..	34	38	49

Dietary Contribution of Food Obtained and Eaten Away From Home

Food obtained and eaten away from home contributed 28% of women's food energy and 21% to 31% of their nutrients and other dietary components (see figure below and table 2, p. 12). Food away from home contributed less of vitamins A and C than of other nutrients, reflecting the smaller proportions of fruits and vegetables that were eaten away (table 1). Total fat, fatty acids, and vitamin E had the highest proportions coming from food away.

The greater prevalence of away-from-home eating among higher income groups was reflected in the proportions of food energy provided by food away from home to women in the three income groups (table 2). For low-income women, food obtained and eaten away from home provided 15% to 20% of intakes of food energy and nutrients. Middle-income women obtained 21% to 30% of their food energy and nutrients from away-from-home food. High-income women obtained 25% to 37% of their food energy and nutrients away from home. Also, the greater prevalence of eating away from home among white than among black women was reflected in the proportions of food energy and nutrients supplied by food obtained and eaten away from home (table 2). Food away from home supplied 22% to 32% of food energy and nutrients in diets of white women, and 15% to 25% of food energy and nutrients in diets of black women.

Nutrient Contribution of Food Away From Home

	Percent of total intake
Food energy	28
Total fat	29
Polyunsaturated fat	31
Unsaturated fat	28
Carbohydrate	27
Protein	26
Iron	24
Calcium	24
Vitamin A	22
Vitamin C	21

Table 2. *Dietary contribution of food obtained and eaten away from home: Mean percentage of intake per individual, women age 19-50, 4 nonconsecutive days, 1985*

Dietary component	All women (N=1,088)	Income			Race	
		Low (N=220)	Middle (N=364)	High (N=384)	White (N=927)	Black (N=107)
		(percent of intake)				
Food energy.....	28	19	27	34	29	22
Protein.....	26	18	25	32	27	22
Total fat.....	29	19	28	35	30	23
Saturated fat.....	28	19	28	34	29	22
Monounsaturated fat.....	28	19	28	35	29	22
Polyunsaturated fat.....	31	20	30	37	32	25
Cholesterol.....	26	17	26	32	27	19
Carbohydrate.....	27	19	26	32	28	22
Dietary fiber.....	24	17	24	30	25	20
Vitamin A.....	22	15	22	27	22	16
Carotenes.....	25	18	24	30	26	18
Vitamin E.....	28	19	27	35	29	23
Vitamin C.....	21	15	21	25	22	17
Thiamin.....	24	16	23	29	25	19
Riboflavin.....	23	16	22	28	24	18
Niacin.....	25	17	24	31	26	20
Vitamin B ₆	23	16	23	28	24	19
Folate.....	23	16	23	28	24	18
Vitamin B ₁₂	25	17	24	31	26	20
Calcium.....	24	17	24	30	25	22
Phosphorus.....	25	17	24	31	26	22
Magnesium.....	24	17	23	29	24	21
Iron.....	24	17	24	30	25	20
Zinc.....	26	18	25	31	26	21
Copper.....	26	17	25	32	27	20
Sodium ¹	27	17	26	33	28	20
Potassium.....	24	17	24	29	25	21

¹Excludes salt added at the table.

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The following two articles are taken from papers presented at Expanding Horizons: More Tools for our Trade, the Nineteenth Annual Meeting of the Society for Nutrition Education on July 9, 1986, in Washington, DC.

Economic and Regulatory Policies: Implications for Nutrition¹

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Although the U.S. Government does not dictate what the American people will eat, numerous Federal economic and regulatory policies influence our food choices and hence our nutrient consumption (6). Some of these policies are consistent with nutritional objectives but others may be in conflict. Policies such as food assistance programs and nutrient fortification are designed to have direct effects on nutrient consumption. Other Federal policies, however, indirectly influence nutrient consumption by affecting the supply or demand for food and, thus, its availability or price.

FOOD AND NUTRIENT DEMAND

Economic research shows that, other things being equal, the lower the price of a good or its complements--or the higher the price of substitutes, for example, margarine and butter--the more of that good that will be demanded. Income also influences food purchases; demand for most foods rises with income. For example, economists have found that as income rises consumers are likely to purchase more meats, desserts, and processed fruits and vegetables (5). However, demand for some foods, primarily staples,

¹ The content of this article does not necessarily reflect the views of the U.S. Department of Agriculture.

falls as income rises. Many demographic factors in addition to income (such as region of residence, race, age, size of family, and education) also have been shown to affect the quantity and mix of foods consumed. Therefore, public policies that affect people's income and other demographic characteristics could alter demand for food and change the mix of nutrients consumed.

Food Assistance Programs

Perhaps the most obvious Government programs influencing nutrient demand are the food assistance programs. The Food Stamp Program was formally established in 1939--when there was both a huge surplus of food and inadequate income for people to purchase the food. The early Food Stamp Program was terminated in 1943, and food assistance was provided primarily through the distribution of surplus commodities until the sixties. The Food Stamp Act of 1964 reinstituted the Food Stamp Program as a permanent program, to operate at State option. In 1974 Congress required all States to offer food stamps to the poor. Over 19 million people participated in the Food Stamp Program in fiscal year 1986, and total program expenditures were \$11.7 billion. Food stamps augment the resources of recipient families and therefore result in greater food expenditures. A recent economic analysis of the current program found that a dollars' worth of food stamps increases at-home food purchases by about 26 cents (11). Because the recipient decides how the stamps will be used, the program has changed nutrient intake in much the same way as an income supplement.

The nutritional assistance program for women, infants, and children (WIC) began as a pilot program in the sixties, but soon became a major provider of supplemental nutrients to low-income pregnant women, nursing mothers, infants, and children. Since the supplemental foods are specified in the WIC voucher, the WIC program has resulted in direct and intended changes in nutrient intake. In fiscal year 1986, the WIC program cost approximately \$1.6 billion and served more than 3.3 million women and children each month.

A nationwide school lunch program was begun in 1935 to address the nutrition needs of school age children. A secondary motive in establishing the program was to utilize surplus commodities. National School Lunch Program (NSLP) meals must meet certain nutrition criteria. Therefore, the NSLP not only affects overall food demand but also influences the mix of foods consumed. In fiscal year 1986, the NSLP cost approximately \$3.5 billion and about 24 million school children participated.

Income and Welfare Policies

Although food assistance programs have the major impact on the nutritional status of the population, other income assistance policies increase people's disposable income and, thus, their food spending. These include Aid to Families With Dependent Children, housing assistance, Supplemental Security Income, Social Security, and even the progressive nature of the Federal income tax structure. About half of the States exempt food from State and local sales taxes, recognizing the regressive nature of such a tax, particularly when applied to food. Although these programs affect the overall expenditures on food, they do not directly or intentionally influence the mix of foods purchased.

Demand Enhancement Programs

Today's primary demand enhancement programs are international in scope--relying on credit subsidies, export promotion programs, and Food for Peace. Few domestic programs of this type remain, although a number of generic advertising programs implemented under the auspices of the Federal or State Governments are currently in effect.

Generic advertising is used to enhance demand for a product group as opposed to a single brand. Potatoes, eggs, wheat, and dairy products have national promotion programs (9). The Food Security Act of 1985 authorizes national programs for beef and pork promotion (4). However, nutrient consumption will be affected only to the extent that promotion programs are successful in altering the mix of foods purchased by consumers.

Federal nutrition research and education also influence the demand for food. The intent of these efforts is to provide consumers with information about the components of a healthy diet. The Food Security Act of 1985 directs State Cooperative Extension Services to expand nutrition education for low-income people. If consumers incorporate these nutrition guidelines into their diets by making changes in their food choices, nutrient consumption will also change.

FOOD AND NUTRIENT SUPPLY

Perhaps nowhere in our economy is there more Government intervention that influences supply and the cost of production than in the food system. Supply management programs have been at the heart of U.S. agricultural programs for the past 50 years. Even before that, research and Extension programs to raise agricultural productivity had major impacts on the supply of agricultural commodities.

Farm Price Support Programs

Since 1933 supply management programs have been used to stabilize and enhance the price of supported commodities--wheat, rice, feedgrains, soybeans, peanuts, honey, sugar, and dairy products (1). Even before the enactment of Federal legislation, farmers were urged to voluntarily restrict supply as a means of enhancing their prices. Because of the inelastic nature of short-run demand for farm commodities, a small reduction in supply could result in a large increase in price received and, therefore, in farmers' revenues.

Over the years a number of different supply-restricting programs were tried. For grains, long-term land retirement under the Soil Bank and Conservation Reserve programs of the fifties and sixties took as many as 21 and 29 million acres of land, respectively, out of production. Under the 1985 farm legislation, a similar program was begun that will take 40 million acres of highly erodible land out of production. More typical of supply restriction programs are those in which farmers are paid directly (or become eligible for other program benefits) to take land out of production for a single growing season. These so-called "set-aside" or "diversion" programs have idled as many

as 70 million acres in a single year and have been in effect in 21 of the past 27 years (3, 7).

When supply is restricted, the price of the raw commodity increases. This raises the price of the foods manufactured or produced from the commodity. For cereals, this price increase is rather minor since the farm component of bread and other bakery products is quite small. When the supply of feed-grains is restricted, the effect on food prices is more indirect. If more expensive feedgrains must be used, the cost of producing meat and poultry rises. There is a time lag between a decision to change production and the actual change in meat supplies. Thus, a policy that enhances prices of feed-grains this year could result in lower meat prices initially as producers step up slaughter to avoid higher feed costs. The longer term effect would be higher meat prices as lower supplies are available a year or two later.

The ultimate impact on nutrition will depend on how consumers react to changes in food prices. Economic theory and empirical evidence tell us that food consumption patterns will be altered as prices of different foods change relative to each other and to nonfood prices. For instance, one study found that if pork prices increased by 10%, consumers are likely to increase purchases of chicken by almost 3% (5). Since different foods have different nutritional contents, the mix of nutrients would be altered.

Farm Programs and Nutrition: A Dairy Example

The dairy sector provides a good example of changes in nutrient consumption that stemmed from price support programs. The Government guarantees dairy farmers minimum milk prices by purchasing (at the support price) all cheese, butter, and nonfat dry milk that is not sold in the market. In 1977 legislation was passed that assured dairy farmers prices that were high by historic standards. They responded with greater production and increased investment in facilities and herds. By the early eighties, it was obvious that the production capacity in the dairy sector was at least 10% above consumer demand at current prices.

In late 1981, faced with a huge surplus of dairy products, the Administration began the Temporary Emergency Food Assistance Program (TEFAP). The program included the direct donation of surplus cheese. Over the next 6 years, the quantity of American cheese given to needy persons averaged about twice their normal consumption. This translates into the consumption of a different mix of nutrients as more cheese and less cheese alternatives (for example, meat and other protein products) are eaten.

The nutritional status of the target population has no doubt been altered by TEFAP. The primary problem they faced prior to TEFAP was an inadequate quantity of food. That has been addressed in part by the donation of surplus food. But other nutritional considerations are relevant as well. What has happened to the fat intake of the TEFAP recipient? Has the mix of nutrients been changed in an adverse or desirable way? Is there a need for additional nutrition education to assure that recipients are able to integrate the surplus commodities into their diets in a balanced manner?

POLICIES AFFECTING BOTH SUPPLY AND DEMAND

There are a number of policies that influence both the demand for food and the supply of--even the existence of--certain foods. This is particularly true of the policies that govern industry structure and conduct, the quality and safety of the food supply, and policies relating to technological change.

Policies Affecting Industry Structure and Conduct

Our antitrust laws affect the supply and demand of nutrients by providing legally binding guidelines for business conduct. These laws are designed to promote fair and effective competition. The rationale for these policies is to create an environment with lower prices, larger output, and product quality reflecting consumer preferences.

Advertising is an important business practice subject to Government oversight. Several Federal agencies have authority over

various aspects of food advertising, but the most influential agency is the Federal Trade Commission (FTC). The FTC has authority to stop false, deceptive, and misleading claims. The FTC can also require affirmative disclosure of specific facts or "corrective" advertising to counter a long history of false advertising (2).

Government Regulation of Food Safety and Quality

Food regulations generally fall into one of three categories--safety, esthetics, or quality. Safety rules generally relate to processing practices and the introduction of harmful ingredients during processing. Rules governing esthetics generally establish maximum levels of contaminants. Rules that govern quality address characteristics other than nutrients. These rules generally fall under the category of food grades or standards of identity and composition. Grades typically classify less processed products (such as fruits, vegetables, and beef) by attributes such as color, size, and marbling. Standards of identity define foods with respect to a recipe. In order for a food to bear the common name of a product on its package label, it must conform with the official recipe or standard for the food.

These rules can affect the supply of foods by removing products that fail to meet Government-established safety or quality standards. In addition, the very existence of institutions regulating the safety and quality of the food supply can also influence demand in a positive manner by increasing consumer confidence in the product.

Food Quality and the Supply and Demand for Nutrients

The Food, Drug, and Cosmetic Act of 1938 mandated that standards of quality be established whenever "...such action will promote honesty and fair dealing in the interest of consumers." The rationale behind the identity standards was to prevent foods that were known by a traditional name from being debased by the substitution of inferior ingredients or low-valued fillers.

In recent years, amid concerns over unnecessary or burdensome regulations, food standards have come under increased scrutiny. Viewed from one perspective, standards are seen as intruding unnecessarily into the consumer choice process, retarding innovation, restricting competition, and raising food prices. Another perspective sees the standards as (1) providing useful signals to consumers who lack sufficient information to wisely choose food products, (2) guarding quality and traditional food preparation methods, and (3) insuring a safe and nutritious food supply.

Standards of identity require that foods that do not conform to the official recipe be clearly labeled. At times this would include "negative" labeling, such as "imitation mayonnaise" for a product that contains less fat or eggs than mayonnaise, or "tissue from ground bone," the name originally proposed by USDA for a mechanically deboned meat product. This negative labeling often means that many foods that do not meet the standards are withheld from the marketplace, thus limiting consumer choice and potentially altering the supply of nutrients available to consumers.

Standards of identity may lock in attributes that have become negative since the standard was established. This is especially important for nutrition considerations when knowledge about what may be "good" for you changes over time. For example, we now know that there are links between dietary fat and cholesterol and heart disease. These links were not considered when the mayonnaise standard was written. Yet because there is a mayonnaise standard, a product with less fat or cholesterol might have to be called imitation mayonnaise, or by a less descriptive name.

Food Safety and the Supply and Demand for Nutrients

Regulators have always been concerned with acute food safety problems caused by management error or improper processing controls. The product recalls that accompany acute food safety problems appear to have little lasting impact on nutrient supply or demand.

Over the past 20 years, a number of food additives found to induce cancer in laboratory animals have been removed from the food

supply. For the most part, safe and reasonably economical substitutes existed. However, during the seventies a number of additives for which there were no adequate substitutes were found to cause cancer. This raised a dilemma for regulators, who were faced with the possibility of banning or at least altering not-insignificant portions of the food supply. For example, nitrite (which could form nitrosamines, a potent carcinogen) is an important preservative for the substantial portion of the pork products consumed in cured form. Hence, the banning of nitrite as a food additive would have resulted in major changes in food and nutrient consumption. Policy makers opted instead to reduce nitrite levels and expand public research into ways to eliminate the nitrosamine risk.

Technology and Nutrient Supply and Demand

Technological developments in agricultural production and food processing have impacts on both nutrient supply and demand. Technologies that increase plant yield and animal growth or lower production cost can translate into greater food supplies at a lower cost and enhance nutrient consumption. On the demand side, technological developments that result in quality changes (such as seedless grapes) or lower cost alternatives (such as simulated seafood products) can increase consumption of certain foods.

National policies and programs affect technological developments in food and agriculture in two ways--through their effects on research and on commercialization. The Government has enhanced technological advancements through its long history of conducting basic research and sponsoring similar research at universities. The Government's influence on commercialization occurs through its regulatory role. For example, the Food and Drug Administration (FDA), U.S. Department of Health and Human Services, must issue a regulation prescribing safe use of a new food additive. These regulations specify the foods in which the additive may be used, the maximum quantity, how the additive may be added, and any special labeling or packaging requirements.

The Case of Irradiation

The still evolving development of food irradiation in the United States illustrates the Government's research and regulatory roles in technological development. Food irradiation is the process of exposing food to radiation to kill or sterilize insects and food spoilage microorganisms. The effects of the radiation depends on the particular food and the dose of radiation absorbed (10). Federal research on food irradiation dates from the "Atoms for Peace" program of the early fifties. The Atomic Energy Commission, and later the Department of Energy, was given responsibility for research on irradiation's lower dose food applications such as sprout inhibition, pasteurization, and insect disinfection. The Army concentrated its research on high dose applications. Their purpose was to develop radiation-sterilized meat products as a substitute for canned and frozen military rations.

Lack of regulatory approval has been one of the major impediments to the commercialization of food irradiation. Permission to irradiate specific foods has been granted or denied in response to individual petitions submitted to FDA. However, in April 1986 FDA issued a broader final rule allowing processors to use low doses of radiation to inhibit sprouting and maturing of fresh foods and to rid foods of insects (12).

FDA requires that retail packages or bulk containers of irradiated foods carry the statement "Treated with radiation" or "Treated by irradiation" and a designated symbol (12). FDA's labeling action may indirectly affect food demand and nutrient consumption because consumers' reaction to the required wording will influence sales of irradiated food.

Provided industry decides to offer irradiated foods and consumers will eat them, irradiation has the potential for altering nutrient demand and consumption in several ways. It can reduce spoilage loss for certain foods and expand the supply of some tropical fruits and vegetables currently precluded by quarantine restrictions. Irradiation may be able to substitute for certain chemical preservatives, such as nitrite in bacon, and raise the safety level of meats, poultry, and fish.

CONCLUSION

Many economic policies and programs of the Federal Government that are seemingly unrelated to nutrition have important nutritional implications. It is becoming ever more obvious that there are interrelationships that must be studied and considered when making policy decisions. In a recent speech, the Director of FDA's Center for Food Safety and Applied Nutrition stated, "...it is no longer possible for us to consider the various components of a national food policy separately. We will have to consider agricultural needs, health and nutritional needs, microbiological needs, toxicological needs, and food technological needs simultaneously. Only in this way can we ever develop understanding of the whole problem" (8).

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Note: For more information on the Food Stamp Program, see "Food Stamp Program," Family Economics Review 1987(3):18-19.

Socioeconomic Factors and Food Usage Patterns

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Introduction

The increasing complexity and changing composition of the U.S. food supply, together with heightened consumer interest in health and nutrition, have increased the need for a more complete understanding of eating patterns and the nutritional quality of diets. Affluence, changes in lifestyle, greater employment of women, smaller households, increased accessibility to commercial food establishments, and increased availability to highly processed foods all have influenced U.S. food consumption patterns.

These changes in consumption behavior are of utmost importance to nutritionists. Nutrition educators are constantly being asked to examine the determinants and consequences of various consumption patterns and to select the most appropriate methods for modifying individual and group diets. Economics as a discipline has a long history of examining food selection patterns. In particular, demand economists have attempted to quantify the commonalities of behavior with respect to food selection--for example, with respect to consumer response to food price, household income, household composition, and many other variables. Whereas behavioral and social psychologists tend to focus on unobservable factors (such as motivation, cognition, and learning) to explain variation in consumption behavior, economists focus more on external or observable factors such as prices and income. To develop or evaluate nutrition programs that involve food selection decisions by individuals, the nutrition educator must consider both kinds of factors.

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Little of the nutrition research conducted by nutrition professionals appears to have systematically utilized the body of research developed by economists. This article summarizes selected economic research on individual and household food selection patterns in an effort to help facilitate the use of economic theory and research in nutrition education research.

Data

Most of the studies described here have utilized all or a portion of either the household availability data or the individual intake data from USDA's 1977-78 Nationwide Food Consumption Survey (NFCS). The household component consisted of records of food usage during a 1-week period in 1977-78 for over 14,000 households. The NFCS provides detailed information on food used by households, from which the nutritional quality of household food supplies can be estimated using USDA's Nutrient Data Bank. These nutrient values are for edible portions of foods, with vitamin values adjusted for cooking losses. The Survey also provides data on home production of food, household income, participation in food programs, education and employment of household heads, and other factors that might affect food consumption.

The individual intake component of the 1977-78 NFCS contained over 37,000 individuals. Information was collected on foods and beverages eaten at home and away from home by the household members participating in the household portion of the Survey. Intake data were recorded by household members for 3 successive days. The foods and beverages consumed were converted to dietary component intakes using another USDA Nutrient Data Base that was designed for use with the individual intake data.

General Methods

Most of the studies reviewed have utilized multivariate statistical regression methods. The selection of independent variables is based on how they are hypothesized to impact on the dependent variable of interest. For example, per capita annual income is hypothesized to have a positive relationship to

away-from-home food consumption, use of convenience foods, and obtainment of more expensive food items, such as high-cost meats and beverages. The employment status of female household head, used by economists as a proxy for the opportunity cost of time, is hypothesized to have a positive relationship to away-from-home food consumption, use of convenience foods, and obtainment of luxury foods. Age and sex variables are frequently included in regression analyses to reflect changing nutritional requirements and as proxies for age-related food preferences. Sometimes variables are included in the analyses to control for their effects on the dependent variable. An example is region of the country to control for interregional price effects.

Away-From-Home Food Consumption

Although there exist many studies of away-from-home food consumption (3, 6, 7, 12, 13, 14), only three have been selected for this review. In 1984, Morgan and Goungetas (8) used ordinary least squares (OLS) regressions and found that increased per capita income had a positive effect on the numbers of meals consumed away from home, whereas household size did not have a strong impact on away-from-home food consumption. However, the fact that household composition was not included in the household size specification may have masked the presence-of-preschool-age-children effect reported by other researchers (1, 12). The number of meals consumed away from home decreased with increasing age, a result reflecting school lunch consumption. Persons residing in single-headed households consumed more meals away from home, suggesting that a single household head has fewer at-home labor substitutes for at-home production. Significantly more meals were consumed away from home when the female household head was employed; however neither regional location nor degree of urbanization had significant impact on the numbers of meals consumed away from home.

The Morgan study also assessed the effect of away-from-home meal consumption on diet quality, as indicated by intake levels of calcium, vitamin B₆, iron, magnesium (underconsumed nutrients), fat, cholesterol,

sodium, and total sugar (overconsumed dietary components) compared to food energy intake levels. For most age and sex groups, increased meals consumed away from home provided greater proportionate increases in intake levels of cholesterol, sodium, fat, calcium, magnesium, and iron than in food energy intake levels. However, it was concluded from this study that where persons ate did not strongly influence their nutritional well-being.

Bunch and Hall (1) also studied the nutrient intake implications of consuming food away from home. These researchers used quantity of calories from away-from-home food consumption as one of the independent variables (along with socioeconomic characteristics) in a multivariate regression analysis where the dependent variables were nutrient intake levels. The main conclusion from their research was that consumption of food away from home did not contribute to overconsumption of fat. Their results indicated, however, that for some individuals, vitamin and mineral consumption was adversely affected by the consumption of foods away from home. Specifically, for adolescents and young adults, consumption of food away from home was negatively related to intake levels of vitamins A and C, iron, and calcium. An analysis of nutrient density of the sample showed that nutrients per kilocalorie were significantly lower for individuals who consumed greater than 30% of total calories away from home. The authors concluded that individuals who ate large percentages of their calories away from home frequently had adequate diets, but that higher caloric consumption was required to achieve this level of nutrient intake.

Haines (4) studied expenditures by individuals ages 15 to 35 years on away-from-home food in restaurants, fast food and convenience stores, and school or work cafeterias. Haines found that household characteristics (particularly characteristics of the person who usually planned and prepared food for other household members) strongly influenced individual away-from-home food expenditure patterns. That is, if the meal processor was

employed, significantly more was spent on away-from-home foods. The age composition of the household (particularly the presence of preschool-age children) had a negative impact on restaurant expenditures but had a positive impact on fast food expenditures. Further, increased household size yielded decreased expenditure at restaurants and increased expenditure at fast food places. Individuals from single-headed households spent more for food away from home than did their counterparts in dual-headed households. Haines reported that income elasticity for all food consumed away from home was 0.475. Income elasticities estimated for specific away-from-home categories ranged from 2.00 for restaurant food and 0.92 for fast food, to a low of 0.18 for cafeteria food. The range of these elasticities indicated that consumers had quite different preferences and behaviors for food in different settings.

Haines also evaluated the impact of away-from-home food consumption on 15- to 35-year-olds' intake levels of food energy, protein, fat, vitamins B₆ and A, and calcium. She found that individuals in households with an employed meal processor consumed more food energy, protein, and fat over a 24-hour period, other things being equal, but that no increased intake levels of vitamins B₆ and A, and calcium were observed. Although higher household incomes were associated with greater individual away-from-home expenditures, for all nutrients studied higher incomes had no association with or were related to lower 24-hour nutrient intakes. When all other factors were held constant, individuals in households with a more highly educated meal processor consumed fewer calories during a 24-hour period. However, processor's education was positively associated with intakes of calcium and vitamin A.

Convenience and Nonconvenience Foods

The findings reported here for convenience food usage were drawn from two research papers (2, 5) that utilized the household data from the 1977-78 NFCS. These researchers grouped convenience foods into three classes. The **basic convenience** class included foods wherein processing was more related to a preservation method than to ease of preparation; foods with a single or

limited number of ingredients; and foods with time or energy inputs, but not culinary expertise, built in (such as processed cheese, peanut butter, and frozen french fries). The **complex convenience** class contained multi-ingredient prepared mixtures and foods that have high levels of time-saving and/or energy inputs, as well as culinary expertise, built in (such as cake mixes, ice cream, catsup, frozen entrees, and canned and dehydrated soups). The **manufactured convenience** class contained foods that have no home-prepared counterparts (such as ready-to-eat breakfast cereal, soft drinks, and canned meal replacement or supplement). The **non-convenience food** class included fresh (unprocessed) foods, ingredient foods, and home-produced or home-preserved items, (such as fresh fruits and vegetables, cooking oils, flour, and eggs).

Mean nutrient densities and mean nutrients per dollar of convenience and nonconvenience classes of foods used by households were computed by Havlicek et al. (5). This study showed that processed foods are not necessarily expensive sources of nutrients. With few exceptions, the mean cost of nutrients was lower for convenience foods than for nonconvenience foods. However, no single food class was consistently the best source of all nutrients per 1,000 kcal. Basic convenience and nonconvenience foods provided more protein and calcium per dollar and per 1,000 kcal than complex convenience and manufactured convenience foods. The highest level of fat per 1,000 kcal was present in nonconvenience foods, the class that included untrimmed fresh meat, most milk and cheese products, and table and cooking fats. As the share of the food dollar spent for convenience foods increased, there was an associated small decrease in the nutrient level per nutrition unit for food energy and all nutrients except calcium, vitamin A, and carbohydrate. Approximately 55% of the dollar for at-home food was spent on nonconvenience foods, 18% on basic convenience foods, 19% on complex convenience foods, and 7% on manufactured convenience foods.

A follow-up study of these data by Capps et al. (2) was conducted to determine the impact of total food expenditure, income, food price, household size, and demographic variables on household demand for convenience and nonconvenience foods. Households located in the Northeast, North Central, and West allocated larger shares of the food dollar to complex convenience foods than households located in the South. Additionally, Northeastern and North Central households allotted significantly smaller shares to nonconvenience foods than Southern households. Central city and nonmetropolitan households used smaller shares of the food dollar for complex and manufactured convenience foods than suburban households. However, relative to suburban households, central city households allocated larger shares to basic convenience foods, whereas nonmetropolitan households allocated larger shares to nonconvenience foods.

Nonwhite households, as well as households with household managers at least 35 years of age, allotted smaller shares of the food dollar to all the convenience classes than their corresponding counterparts. Households with female household managers apportioned larger shares to nonconvenience foods and smaller shares to complex and manufactured convenience foods than households with male household managers. The same held true for unemployed household managers versus employed household managers. Households with college-educated household managers allocated smaller shares to nonconvenience and complex convenience foods but larger shares to basic and manufactured convenience foods than households without college-educated household managers. Finally, increased household size (measured in 21-meal equivalents) led to increased use of basic and complex convenience foods and to decreased use of nonconvenience foods, but the use of manufactured convenience foods was not affected by household size.

At-Home Food Patterns

Morgan et al. (9, 10, 11) have completed several studies evaluating at-home food consumption patterns and their nutritional consequences. The first of these studies (9) assessed factors influencing proportionate allocations of total food dollars to each of

12 food groups. Results are indicated in table 1 (p. 23) and show the various characteristics associated with higher and lower proportions of the food dollar attributed to the 12 food groups. In addition, it was determined that **nonmetropolitan** households allocated significantly greater proportions of their total food value to all 12 food groups than did **central city** households. **Suburban** households allocated higher proportions of their total food value to milk and cheese; mixtures, condiments and bakery products; fats and oils; sugar and sweets; and beverages, and a lower proportion to lower-cost meats than did **central city** households.

Another study by Morgan et al. (10) utilized OLS regressions to relate socioeconomic variables to food energy and five selected nutrients obtained per food dollar. Table 2 (p. 24) lists the characteristics that contributed to higher and lower levels of these six dietary components acquired from each food dollar. Also, **nonmetropolitan** households had a higher level of return per dollar of food energy and all nutrients, except vitamin A, than **central city** households. **Suburban** households also had greater levels per food dollar than did **central city** households for all nutrients except vitamin A.

The last of the three studies (11) by this research team used the values for each of the six dietary components per dollar of food (used in 10) for each household and ranked them in order by dietary component return, per food dollar. Then for each of these corresponding six arrays of households, the upper and lower quartiles were identified for use in investigating shopping expertise. These quartiles are referred to hereafter as "high-return" and "low-return" households. For each of the six sets of high- and low-return households, assessments were made to determine the average percentage of total food cost allocated to each of the 12 food groups (used in 9). The mean percentages allocated to the 12 food groups by the high- and low-return households were evaluated for significant differences. Assessments were also made for quality of at-home food consumption for high- and low-return households.

Table 1. Socioeconomic characteristics affecting the proportionate allocation of total food dollars to 12 food groups

Food group	Characteristic	
	Higher proportion	Lower proportion
Vegetables	Southern region	Increased household size Increased per capita income Black race Spanish origin
Fruits	Western region	Increased household size Increased per capita income Black race
Higher cost meats	Increased per capita income Southern region	Increased household size White race
Lower cost meats	Spanish origin Southern region	Increased per capita income White race
Eggs, beans, nuts	Spanish origin Southern region	Increased household size Increased per capita income White race
Milk and cheese	Increased household size White race Southern region	Increased per capita income
Cereals, rice, pasta	Increased household size Spanish origin Southern region	Increased per capita income White race
Mixtures, condiments, bakery	White race Southern region	Increased per capita income Spanish origin
Bread	Northeast region	Increased per capita income Black race
Fats and oils	Southern region	Increased household size Increased per capita income White race
Sweets and sugar	White race Southern region	Increased per capita income
Beverages	Increased per capita income White race Southern region	Increased household size

For all dietary components evaluated, the high-return households allocated significantly smaller proportions of their total food value to high-cost meats and beverages than did the low-return households. In all cases except food energy and calcium, households with high return also allocated lower average proportions of total food value to mixtures, condiments, and bakery products. These households allocated, on average, greater proportions of their total food value to cereals, rice, and pasta; milk and cheese; eggs, beans, and nuts; and fats and oils than households with low return. Except for vitamin A, households with high return also allocated larger proportions of food

value to bread. Results for vegetables, fruits, lower-cost meats, and sugar and sweets were mixed, indicating that no consistent relationship existed between levels of dietary components per food dollar and allocations of food dollars to these food groups. Assessments of diet quality obtained from at-home food consumption revealed that households with high nutrient return per food dollar were more likely to meet the National Research Council's Recommended Dietary Allowance than were those with low nutrient return.

Table 2. Socioeconomic characteristics associated with quantity of food energy and 5 nutrients obtained per food dollar

Food nutrient	Characteristic	
	Higher level	Lower level
Food energy	Increased household size Spanish origin Black race Southern region	Northeast region
Vitamin A	Decreased household size Black race Western region	Increased income Northeast region
Protein	Increased household size Spanish origin Black race Southern region	Increased income Northeast region
Calcium	Increased household size Western region	Increased income Black race Northeast region
Iron	Increased household size Spanish origin Black race Southern region	Increased income Northeast region
Magnesium	Increased household size Southern region	Increased income Black race Northeast region

Conclusions

Economic research on food consumption and nutrition can contribute to a better understanding of individual and household food selection. It can further policymakers' understanding of nutrition-related behavior and guide them in allocating scarce nutrition program resources to meet public health needs. However, the usefulness of economics in describing food selection patterns can be improved by working within multidisciplinary research teams including nutritionists, economists, psychologists, anthropologists, and others. The interdisciplinary approach would make it easier to identify problems, plan educational programs with a higher probability of compliance over extended periods of time, and provide meaningful input into national food and nutrition policy-making decisions.

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Note: For information on USDA's National Food Consumption Survey, see Family Economics Review Fall 1978, pp. 3-7.

Child Care Arrangements of Working Women¹

Data on child care arrangements of employed mothers, for the period December 1984 through March 1985, were collected in a supplement to the Survey of Income and Program Participation (SIPP), conducted by the Bureau of the Census. Earlier surveys of child care arrangements for children under age 5 were conducted in 1977 and 1982. The data collected in the SIPP include information on the three youngest children under age 15 of working women and refer to their usual weekly child care arrangements.

There were an estimated 26.5 million children under the age of 15 whose mothers were employed during the Survey period. Because some women used more than one type of child care arrangement during a typical work week, two categories of arrangements were reported. The **primary** child care arrangement refers to the way the child was cared for during most of the hours the mother worked.² The **secondary** child care arrangement is the one used second most frequently while the mother worked. Children of full-time working mothers were more likely to require secondary child care arrangements than the children of part-time working mothers (33% and 13%, respectively). Secondary child care arrangements were used by 32% of children 5 to 14 years of age and by 13% of children under age 5.

Of the 8.2 million preschool-age children of working women, 23% attended organized child care facilities³ as their primary care arrangement during their mothers' work hours (table). Others were cared for in their own homes (31%), in someone else's home (37%), or by the mother herself while

working either at home or away from home (8%). Preschoolers whose mothers worked part time were more likely to receive supervised care at home than were preschoolers with full-time working mothers (42%, compared with 24%). Child care for preschoolers of full-time working mothers was more frequently located outside the child's home and with nonrelatives rather than with family members or relatives.

Fathers provided child care more often if their wives worked part time than if their wives worked full time. Married fathers of preschoolers were much more likely to provide child care than unmarried fathers (19%, compared with 2%). Unmarried women more often depended on their children's grandparents for child care in the child's home than did married women (16% and 3% of all primary child care).

About 1.4 million infants under 1 year of age required child care services while their mothers worked. Of these infants, 78% were cared for either in the child's home or in another home. Another 14% were cared for in organized child care facilities. The labor force participation rate among women with infants increased from 44% in 1982 to 48% in 1985, with a corresponding rise in the use of day care centers for infants (4% in 1982 and 8% in 1984-85).

Women employed in service occupations made less use of organized child care facilities for children under 5 years (11%) than women in managerial or professional occupations (30%). Women in service occupations were more likely to work non-day shifts and, therefore, depended more heavily on parental child care. Better educated mothers made greater use of organized child care facilities for their preschool-age children. Organized child care facilities were used by 31% of the children of employed mothers who completed 4 or more years of college, compared with 15% of the children of employed mothers who did not complete high school. The use of these facilities by black women for their preschoolers was significantly higher (31%) than for either white women (21%) or Hispanic women (20%). Also, preschool children of unmarried women were more likely to be in organized child care facilities (27%) than children of married women (22%).

¹For additional information on "Child Care Arrangements and Expenditures," see Family Economics Review 1986(4):1-7.

²Primary child care could include being enrolled in grade school.

³Includes day and group care services and nursery or preschool programs.

Primary child care arrangements of children under 15, by employment status of their mothers, winter 1984-85

[Numbers in thousands]

Type of child care arrangement	Employed mothers with children under 15 years		Employed mothers with children under 5 years		Employed mothers with children 5 to 14 years	
	Total full time	Employed part time	Total full time	Employed part time	Total full time	Employed part time
Number of children.....	26,455	16,812	9,643	8,168	5,060	3,108
				18,287	11,752	6,535
<hr/>						
	<u>Percent of children</u>					
Care in child's home.....	17.8	14.8	23.0	31.0	24.4	41.8
By father	9.4	6.7	14.1	15.7	10.7	23.8
By grandparent	2.7	2.5	3.0	5.7	5.1	6.7
By other relative	3.0	3.2	2.7	3.7	3.6	4.0
By nonrelative	2.6	2.3	3.1	5.9	5.0	7.3
Care in another home.....	14.4	15.9	11.7	37.0	42.2	28.4
By grandparent	4.3	4.4	4.1	10.2	10.5	9.7
By other relative	1.8	1.7	1.9	4.5	4.2	5.0
By nonrelative	8.3	9.8	5.7	22.3	27.5	13.8
Organized child care facilities	9.1	10.8	6.1	23.1	28.0	15.2
Day or group care center ..	5.4	6.3	3.9	14.0	16.5	9.9
Nursery school or preschool.....	3.7	4.5	2.2	9.1	11.5	5.3
Kindergarten or grade school.....	52.2	53.4	50.2	0.8	0.4	1.3
Child cares for self	1.8	2.1	1.4	--	--	--
Parent cares for child ¹	4.7	3.0	7.8	8.1	5.0	13.3

¹ Includes women working at home or away from home.

Source: U.S. Department of Commerce, Bureau of the Census, 1987, *Who's Minding the Kids? Child Care Arrangements: Winter 1984-85*, Current Population Reports, Household Economic Studies, Series P-70, No. 9.

The percentage of women using organized child care facilities for children under age 5 increased from 13% in 1977 to 16% in 1982 and 25% during winter 1984-85. Mothers working full time were more likely to use day or group care arrangements (17%) and nursery or preschool facilities (12%) than mothers employed part time (10% and 5%, respectively).

For the first time in a Census Bureau survey, an attempt was made to estimate the incidence of child-care-related disruptions in the daily work schedule among women. Work disruptions (loss of time from work)⁴ caused by failures in child care arrangements affected 6% of surveyed working women with one child under age 15, using only one type of arrangement. Women who used day care or group care centers experienced a smaller incidence of work disruptions (1%) than did women whose children were cared for in someone else's home (8%).

Estimated annual child care expenditures of working women exceed \$11 billion annually. Among mothers employed full time, 72% paid for child care services, compared with 60% of mothers who were employed part time. Payments for child care were made more frequently by married women (72%) than by unmarried women (61%). The median child care expenditure for the 5.3 million women paying cash for child care was \$38 per week, with 29% of these women paying \$50 or more per week.

⁴Estimates of time lost reflect work disruptions experienced during the more inclement winter months.

Source: U.S. Department of Commerce, Bureau of the Census, 1987, Who's Minding the Kids? Child Care Arrangements: Winter 1984-85, Current Population Reports, Household Economic Studies, Series P-70, No. 9.

After-School Care of School-Age Youth

Nonsupervision of school-age children is a major social issue. A supplement to the Current Population Survey (CPS), conducted in December 1984 by the Bureau of the Census, measured the extent to which school-age children, 5 to 13 years of age, were without the care of a parent or another adult (14 years old and over) during non-school hours. Although the report focused on after-school care, care during other periods of the day was also determined.

There were 29 million children between the ages of 5 and 13 years enrolled in school in December 1984. Eight million of these children (28%) regularly spent time either alone or supervised by someone other than a parent during at least one period of nonschool hours--2.4 million (8%) before school, 7.1 million (25%) after school, and 1.7 million (6%) at night. The majority of these children were cared for by another adult. Only 2% were unsupervised by an adult before school, 7% after school, and 1% at night. The proportion of children not cared for by an adult varied markedly by age, from 1% of 5-year-olds to 14% of 13-year-olds.

Children whose mothers had not completed high school or were in occupations subject to shift work or who lived in geographically isolated areas were more likely than others to be in parental care only. Children in higher income households and children with mothers who were better educated¹ or in white-collar professions were more likely than others to be unsupervised by an adult after school. Black children were more likely than white children to be cared for by a parent or by an adult sibling or relative, whereas white children were more likely than black children to be cared for by a nonrelative or to care for themselves (see table).

¹Includes mothers who graduated from high school, those who had attended college, and those who were college graduates.

After-school caretaker of 5- to 13-year old children enrolled in school, by labor force status of mother and race, December 1984

[Numbers in thousands]

Status	Number	Caretaker				
		Parent	Adult sibling	Other relative	Non- relative	No adult
All children:						
All races	28,852	75.5	2.7	6.6	7.8	7.2
White.....	23,350	75.4	2.6	5.7	8.3	7.8
Black.....	4,316	75.9	3.0	10.7	5.6	4.3
Mother in labor force:						
All races	17,027	63.2	4.1	9.5	11.8	10.9
White.....	13,715	62.5	3.9	8.6	12.7	12.0
Black.....	2,626	67.2	4.7	13.4	8.1	5.9
Mother employed full time:						
All races	10,559	54.3	5.2	11.7	14.8	13.5
White.....	8,307	52.8	5.0	10.8	15.9	15.0
Black.....	1,788	60.9	5.5	15.2	10.3	7.4

Source: Bruno, Rosalind R., 1987, After-School Care of School-Age Children, December 1984, Special Studies, Series P-23, No. 149, U.S. Department of Commerce, Bureau of the Census.

Other supplements to the CPS that assessed after-school care of children were conducted in 1965 and 1974. The 1965 survey, which related to care while the mother worked, found less parental care and more supervision by other relatives than did the 1984 survey or the 1974 survey (on daytime care of children). The percent of elementary school-age children whose mothers were employed full time increased from 18% in

1965 to 26% in 1974 and 37% in 1984. Between 1974 and 1984, the proportion of school-age children, with mothers employed full time, who were without adult supervision after school dropped from 16% to 12%.

Source: Bruno, Rosalind R., 1987, After-School Care of School-Age Children, December 1984, Special Studies, Series P-23, No. 149, U.S. Department of Commerce, Bureau of the Census.

Living Arrangements and Marital Status of Households and Families¹

In 1986 there were 88.5 million households in the United States (see table), an increase of 7.7 million since 1980 and 25.1 million since 1970. Of these households, families accounted for 72%, compared with 74% in 1980 and 81% in 1970. The decline in the share of households consisting of families since 1970 is attributable to a drop in the proportion of married-couple households.

¹ The terms household and family, used by the Bureau of the Census, do not necessarily describe the same type of living arrangement. Family households consist of at least two persons--the householder and one or more additional persons related to the householder through birth, marriage, or adoption. Nonfamily households include persons living alone and householders living with one or more other persons who are not related to the householder.

Married-couple families accounted for 58% of all households in 1986, compared with 71% in 1970.

Nonfamily households accounted for over half (52%) of the total net increase in households from 1970 to 1986. About 85% of nonfamily households in 1986 were persons living alone. Almost one-half of the multi-person nonfamily households were unmarried couples.² About 52% of unmarried-couple householders in 1986 were persons who had never married, and an additional 34% were divorced. In 1986 there were four times as many unmarried couples as in 1970. Nevertheless, they represented only 4 of every 100 couples in the Nation.

² The Bureau of the Census defines an unmarried couple as no more than two persons (unless children are present), consisting of a householder sharing the household with an unrelated adult of the opposite sex. Unmarried couples may include boyfriend/girlfriend relationships, tenant-owner situations, or paid employees of the householder.

Household composition, 1970 to 1986

[Numbers in thousands]

Type of household	Number of households			Percent contribution to net increase	
	1986	1980	1970	1980-86	1970-80
Total.....	88,458	80,776	63,401	100.0	100.0
Family households.....	63,558	59,550	51,456	52.2	46.6
Married-couple family.....	50,933	49,112	44,728	23.7	25.2
Other family, male householder.....	2,414	1,733	1,228	8.9	2.9
Other family, female householder.....	10,211	8,705	5,500	19.6	18.4
Nonfamily households.....	24,900	21,226	11,945	47.8	53.4
Living alone.....	21,178	18,296	10,851	37.5	42.8
Male householder.....	10,648	8,807	4,063	24.0	27.3
Female householder.....	14,252	12,419	7,882	23.9	26.1

Source: U.S. Department of Commerce, Bureau of the Census, 1986, Households, Families, Marital Status, and Living Arrangements: March 1986 (Advance Report), Series P-20, No. 412.

Changes in household composition--fewer children per family, an increase in one-parent families, and more people living alone--contributed to a decline in the average number of persons per household. Average persons per household reached a new low of 2.67 in 1986, compared with 2.76 in 1980, and 3.14 in 1970. Average family size has also declined, falling to 3.21 persons in 1986.

The median age at first marriage in 1986 was 25.7 years for men and 23.1 years for women. Since 1956 (when median age had declined to 22.5 for men and 20.1 for women) there has been an increase in the median age at first marriage, reversing the pattern observed during the first half of the century. The recent trend toward postponing marriage may reflect a greater tendency among some young adults to pursue advanced education or to establish themselves in a career prior to assuming family responsibilities.

Source: U.S. Department of Commerce, Bureau of the Census, 1986, Households, Families, Marital Status, and Living Arrangements: March 1986 (Advance Report), Series P-20, No. 412.

Minimum Wage — Its Relation to Incomes and Poverty¹

In March 1985 more than 5 million workers were paid at or below the Federal minimum wage rate.² About 1 million of these low-wage earners lived in households with incomes below Federal poverty thresholds, as shown below:

Family size and composition	Threshold
1 person, nonelderly	\$5,590
1 person, elderly.....	5,160
2 persons, nonelderly householder	7,230
2 persons, elderly householder	6,510
3 persons	8,570
4 persons	10,990

The current minimum rate of \$3.35 per hour has remained unchanged since January 1981. Because prices and average wages have risen since then, the real value of the minimum wage is less than at any time since the mid-fifties. Trends in minimum wage rates, average prices and wages, and poverty thresholds are reported in an analysis by the U.S. Congressional Budget Office. Factors that affect poverty status are also examined.

¹ The Fair Labor Standards Act of 1938 established a floor on the hourly wage rate that employers are allowed to pay most workers. In 1985, 90% of nonsupervisory civilian workers received earnings subject to this law. Exceptions to the law include executive, administrative, and professional personnel; employees in some small firms; and the self-employed.

² Data are from the March 1985 Current Population Survey, U.S. Department of Commerce, Bureau of the Census.

Purchasing power of the minimum wage (its real value after accounting for inflation) has fluctuated considerably since the law was enacted in 1938. That first year's minimum wage (\$0.25, table 1) was worth \$2.00 in 1985 dollars. By 1968 the real value of the minimum wage reached a high of nearly \$5.00 in 1985 dollars. To match the purchasing power of the minimum wage in January 1981, the rate in January 1986 would have had to have been about \$4.22.

Minimum wage has also declined as a share of average wages in private nonagricultural industries. From 50% of average hourly earnings during the fifties and sixties, the minimum wage declined to just over 45% in the seventies, and by 1985 it had fallen to about 39% of average wages.

A person working 40 hours per week for 52 weeks at the current minimum wage would have earned an income (\$6,968) about equal to the poverty threshold for a two-person family in 1985 (table, p. 31). During most of the sixties and seventies, however, a person working full time, year round at the minimum wage would have received an income approximately equal to the poverty threshold for a three-person family. Earnings have declined relative to poverty thresholds

since the seventies because the latter have been updated annually to account for changes in prices, whereas the minimum wage has not increased since 1981.

The relationship between a worker's wage rate and his or her poverty status depends on several factors, including number of hours worked per year, the amount of income received by the worker and other family members, and the applicable poverty threshold for the worker's family.

. **Hours worked.** Minimum wage workers (workers paid at or below the minimum wage) were generally employed fewer hours and more intermittently than were other hourly paid workers in 1985. Only 18% of minimum wage workers, compared with 59% of the workers paid above the minimum wage, worked full time, year round.

. **Presence of other paid workers in the family.** In 1985 minimum wage workers were just as likely as other hourly paid workers to be in families in which other members worked during the year (69% for each). Minimum-wage earners who were the only jobholders in their families had a poverty rate of 44%, compared with 8% for those with other working family members (table 2). This

Table 1. Minimum wage rates, 1938 to present

Effective date	Minimum wage	Effective date	Minimum wage
October 24, 1938	\$0.25	February 1, 1968	\$1.60
October 24, 1939	0.30	May 1, 1974	2.00
October 24, 1945	0.40	January 1, 1975	2.10
January 25, 1950	0.75	January 1, 1976	2.30
March 1, 1956	1.00	January 1, 1978	2.65
September 3, 1961	1.15	January 1, 1979	2.90
September 3, 1963	1.25	January 1, 1980	3.10
February 1, 1967	1.40	January 1, 1981	3.35

Source: Smith, Ralph E., and Bruce Vavrichuk, 1987, The minimum wage: Its relation to incomes and poverty, Monthly Labor Review 110(6):25, U.S. Department of Labor, Bureau of Labor Statistics.

Table 2. Poverty rates of workers paid hourly rates, March 1985

Characteristic	Poverty rate (percent)	
	Paid at or below \$3.35	Paid over \$3.35
Total.....	19.2	6.2
Age and sex:		
Teenagers.....	12.5	9.3
Adult men.....	22.0	5.5
Adult women.....	22.5	6.3
Employment status:		
Full time	22.4	5.4
Part time.....	17.7	8.6
Other workers in family:		
None	44.3	12.2
One or more.....	8.2	2.8
Work experience in 1984:		
Full time, year round	12.7	2.7
Part time, year round	18.6	5.7
Full time, part year	27.1	11.6
Part time, part year.....	16.3	12.8
No employment	28.2	25.9
No other workers in family in 1984	44.5	13.7
Poverty threshold \$10,500 or more.....	61.7	27.2
Other workers in family in 1984	7.9	2.7
Poverty threshold \$10,500 or more.....	7.0	4.1

Source: Smith, Ralph E., and Bruce Vavrichek, 1987, The minimum wage: Its relation to incomes and poverty, Monthly Labor Review 110(6):28, U.S. Department of Labor, Bureau of Labor Statistics.

comparison was more dramatic for those in families of four or more people--62% and 7%. Teenagers held almost one-third of all jobs paying at or below the minimum wage in 1985.

• **Family size.** Workers paid at the minimum wage level were more likely to live in poor families if family size was large.

Poverty rates were higher for families of four or more persons than for families of one, two, or three persons.

Source: Smith, Ralph E., and Bruce Vavrichek, 1987, The minimum wage: Its relation to incomes and poverty, Monthly Labor Review 110(6):24-30, U.S. Department of Labor, Bureau of Labor Statistics.

New Publications

Single copies of the following are available free from the Federal Trade Commission, Room B-3, 6th and Pennsylvania Avenue, NW., Washington, DC 20580:

- **Facts for Consumers--Bestsellers.** July 1987.

This information sheet lists the most popular consumer publications on a variety of subjects, including home financing, credits, professional services, and sales practices. Publications available for business use, such as "Writing a Care Label" and "Complying with the Credit Practices Rule," are included.

* * * * *

The following are for sale from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202)783-3238:

- **Composition of Foods: Finfish and Shellfish.** AH 8-15. September 1987. SN001-000-04497-4. \$10.

- **Major Statistical Series of the U.S. Department of Agriculture: Agricultural Marketing Costs and Charges.** AH-671. July 1987. 44 pp. SN001-019-00523-8. \$2.

This handbook describes how the market basket, marketing bill, and food marketing cost index are constructed and used to analyze changes in food prices and expenditures. Sources of current and historical data on food marketing costs and charges are identified.

* * * * *

The following is available free from the Consumer Information Center. Write to Consumer Information Center, Dept. 600R, Pueblo, CO 81009:

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Cost of Food at Home

Cost of food at home estimated for food plans at 4 cost levels, November 1987, U.S. average ¹

Sex-age group	Cost for 1 week				Cost for 1 month			
	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan
FAMILIES								
Family of 2: ²								
20-50 years	\$39.80	\$50.50	\$62.40	\$77.60	\$172.80	\$218.80	\$270.60	\$336.30
51 years and over	37.70	48.40	59.80	71.60	163.50	209.80	259.20	310.40
Family of 4:								
Couple, 20-50 years and children--								
1-2 and 3-5 years	57.90	72.50	88.70	108.90	251.10	314.00	384.50	472.20
6-8 and 9-11 years	66.40	85.20	106.80	128.70	287.60	369.30	463.20	558.00
INDIVIDUALS ³								
Child:								
1-2 years	10.40	12.70	14.80	17.80	45.20	54.80	64.00	77.10
3-5 years	11.30	13.90	17.20	20.60	48.80	60.30	74.50	89.40
6-8 years	13.80	18.40	23.10	27.00	59.60	79.70	100.20	116.90
9-11 years	16.40	20.90	27.00	31.20	70.90	90.70	117.00	135.40
Male:								
12-14 years	17.10	23.80	29.70	34.90	74.20	103.00	128.70	151.40
15-19 years	17.80	24.70	30.60	35.50	76.90	106.90	132.70	153.70
20-50 years	19.00	24.40	30.60	37.00	82.50	105.70	132.80	160.40
51 years and over	17.30	23.20	28.60	34.30	74.90	100.50	123.80	148.60
Female:								
12-19 years	17.10	20.60	25.00	30.30	74.30	89.20	108.50	131.40
20-50 years	17.20	21.50	26.10	33.50	74.60	93.20	113.20	145.30
51 years and over	17.00	20.80	25.80	30.80	73.70	90.20	111.80	133.60

¹Assumes that food for all meals and snacks is purchased at the store and prepared at home. Estimates for the thrifty food plan were computed from quantities of foods published in *Family Economics Review*, 1984(1). Estimates for the other plans were computed from quantities of foods published in *Family Economics Review*, 1983(2). The costs of the food plans are estimated by updating prices paid by households surveyed in 1977-78 in USDA's Nationwide Food Consumption Survey. USDA updates these survey prices using information from the Bureau of Labor Statistics, *CPI Detailed Report*, table 3, to estimate the costs for the food plans.

²10 percent added for family size adjustment. See footnote 3.

³The costs given are for individuals in 4-person families. For individuals in other size families, the following adjustments are suggested: 1-person--add 20 percent; 2-person--add 10 percent; 3-person--add 5 percent; 5- or 6-person--subtract 5 percent; 7- or more-person--subtract 10 percent.

Consumer Prices

Consumer Price Index for all urban consumers [1967 = 100, unless otherwise noted]

Group	Unadjusted indexes			
	Nov. 1987	Oct. 1987	Sept. 1987	Nov. 1986
All items	345.8	345.3	344.4	330.8
Food	335.1	335.3	334.9	324.6
Food at home.....	319.0	319.9	319.8	309.9
Food away from home.....	379.6	378.4	377.4	365.8
Housing	374.9	375.2	375.4	361.7
Shelter.....	429.2	428.6	426.2	410.2
Renters' costs ¹	129.2	129.4	129.8	124.3
Rent, residential	295.5	295.4	294.5	285.6
Homeowners' costs ¹	127.4	127.1	126.0	121.5
Maintenance and repairs	393.2	390.9	390.5	377.1
Maintenance and repair services	453.1	451.0	450.8	433.7
Maintenance and repair commodities ..	283.1	281.0	280.4	272.9
Fuel and other utilities	378.2	381.3	389.8	371.1
Fuel oil and other household fuel commodities.....	² 518.8	² 507.0	² 501.0	452.0
Gas (piped) and electricity	428.4	436.6	457.4	426.7
Household furnishings and operation.....	255.6	255.6	255.8	251.2
Housefurnishings	203.9	203.9	204.6	201.4
Housekeeping supplies.....	332.0	331.7	330.4	320.4
Housekeeping services.....	355.1	355.3	354.6	348.5
Apparel and upkeep	226.4	226.3	222.2	213.1
Apparel commodities	209.9	209.9	206.0	197.4
Men's and boys' apparel	211.9	211.0	208.4	205.3
Women's and girls' apparel	190.1	191.0	186.2	175.0
Infants' and toddlers' apparel	326.3	324.9	313.6	307.0
Footwear	223.9	222.4	219.1	215.1
Apparel services	352.0	351.0	348.4	339.0
Transportation	324.1	321.9	320.4	304.3
Private transportation	316.0	313.8	312.1	295.8
New vehicles	235.7	233.0	230.6	230.2
Used cars	389.0	388.0	387.3	361.0
Motor fuel.....	315.2	315.2	318.4	260.9
Maintenance and repair.....	383.5	382.0	380.7	368.4
Public transportation	444.8	442.0	445.1	431.7
Medical care.....	471.7	469.8	467.8	444.6
Medical care commodities.....	299.1	297.4	295.8	278.2
Medical care services	509.3	507.4	505.4	481.5
Professional services	425.6	424.4	422.8	399.8
Entertainment	288.1	287.1	285.2	277.4
Other goods and services.....	376.1	375.5	373.9	354.9
Personal care.....	302.7	302.5	301.8	293.4
Personal and educational expenses	477.1	476.2	473.7	448.2

¹Indexes based on December 1982 = 100 base.

²Includes wood, charcoal, and peat, not previously priced.

Source: U.S. Department of Labor, Bureau of Labor Statistics.



Highlights

Housing Expenditures

Nutrition:

**Intakes of Women Away From
Home**

**Economic and Regulatory
Policies**

Food Usage Patterns